pattern of a meander may be known from rivers where a slowly creeping river meanders back and forth across its down-valley axis.

BRIEF DESCRIPTION OF THE DRAWINGS

[0015] FIG. **1** shows the typical assembly in which a thermal pad is applied.

[0016] FIG. **2** shows several thermal pads of the prior art, from which material is cut out or into which slits are cut.

[0017] FIG. **3** shows in an exemplary embodiment of the invention the side of a heat sink which in an assembly is directed towards the electronic component to be cooled.

DETAILED DESCRIPTION OF THE INVENTION

[0018] In FIG. **1** the typical configuration of a printed circuit board with one or more electronic components to be cooled, a heat sink to be fixed on the printed circuit board and a thermal pad between the heat sink and one of the electronic components to be cooled is shown. The surface of the one or more components to be cooled and the heat sink are facing each other. Between the component and the heat sink the thermal pad is placed. The heat sink may have one or more projecting structures which may compensate a different height of the components, so that all components to be cooled by the heat sink may have the same gap with the opposite heat sink surface. A heat sink with such projecting structures may be produced e.g. by die casting technique. The heat sink may be fixed on the printed circuit board by means of a suited clamping system or any other holding devices.

[0019] In particular if more than one electronic component is to be cooled by the heat sink, the adjustment of the distance between the printed circuit board and the heat sink may become critical: If the distance between the printed circuit board and the heat sink is too great, the pressure on the thermal pad may be too low, and the heat transfer to the heat sink may collapse due to a bad or missing contact of the thermal pad with the heat sink and the electronic component to be cooled. On the other hand, if the distance between the printed circuit board and the heat sink is too small, the pressure between the printed circuit board and the heat sink may be too high, and the electronic component to be cooled may be damaged, but also many kinds of failures in the printed circuit board such as solder points crack, printed circuit board deformation and others may happen. This is especially critical if more than one component at a time has to be adjusted for a good thermal contact with the heat sink.

[0020] FIG. **2** shows thermal pads where the stress exercised by the thermal pad is reduced by prior art technique: In order to create free space in the thermal pad where excess material may spread when pressure is applied on the thermal pad, slots are cut out of the thermal pad. Shown are here four rectangular slots arranged to form a cross, but there are many other shapes possible which may be used as well. Even simple slits in the thermal pad have been found to be helpful in reducing the stress exercised on the component on the printed circuit board.

[0021] FIG. **3** shows an exemplary embodiment of the invention: Shown is the surface of the heat sink as it is opposed to the upper side of the electronic component. Cavities are buried in this surface into which thermal pad material may spread when pressure is exercised on the thermal pad by the electronic component to be cooled on one side and by the heat sink on the other side.

[0022] As mentioned above the contour of the one or more cavities should be preferably long. So an advantageous shape of such a cavity may be the shape of a groove. FIG. **3** shows the surface of the heat sink filled by an array of grooves which is intended to be covered by a thermal pad. The dotted lines indicate the contour of the thermal pad which is to be applied on the heat sink.

[0023] Another advantage of the invention is, that the claimed heat sink including the projecting structures mentioned above and including the cavities buried into the heat sink may be formed in one step by die casting. In another way of manufacturing the cavities may be also formed by milling.

1. A heat sink for dissipating heat from at least one electronic component, the heat being dissipated via at least one thermal pad located between the at least one electronic component and the heat sink,

wherein the heat sink has at least one cavity in the area where the heat sink is to contact the thermal pad.

2. The heat sink according to claim **1**, wherein the heat sink is fixed to the printed circuit board carrying the electronic component capable to generate heat.

3. The heat sink according to claim **1**, wherein the at least one cavity is implemented in the shape of a polygon, an ellipsoid or an oval.

4. The heat sink according to claim **1**, wherein the at least one cavity is implemented in the shape of a groove.

5. The heat sink according to claim **4**, wherein the groove is evenly spread over the contact surface of the heat sink.

6. The heat sink according to claim **4**, wherein the groove has the shape of a meander.

7. The heat sink according to claim **1**, wherein the heat sink comprises a die cast part.

8. Method of mounting a heat sink, said method comprising clamping together a heat sink according to claim **1** and a heat generating component with a thermal pad between said devices, said thermal pad filling the gap between said devices, whereby the heat sink has at least one cavity in the area where the heat sink is to contact the thermal pad.

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